Due at the beginning of class Thursday 1/14 (section 48) or Friday 1/15 (all other sections)

**Directions**: Complete the following questions and save your answers in Microsoft Word documents. You may be required to electronically submit 1 or more of these problems in class Thursday or Friday.

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1. Page 679, ICA 17-1 + ICA 17-6

2. Page 679, ICA 17-5 + ICA 17-10

3. Create a written algorithm and flowchart to determine whether a given altitude [meters] is in the troposphere, lower stratosphere, or the upper stratosphere. In addition, your algorithm should calculate and report the resulting temperature [°C] and pressure [kPa]. Refer to atmosphere model provided by NASA: http://www.grc.nasa.gov/WWW/K-12/airplane/atmosmet.html

4. Humans can see electromagnetic radiation when the wavelength is within the spectrum of visible light. Create a written algorithm and a flowchart to determine if a given wavelength [nm] is one of the 6 spectral colors listed in the chart below. Your algorithm should provide a warning if the provided wavelength is not within the visible spectrum.

| Color | Wavelength Interval |
|---|---|
| Red | ~ 700 - 635 nm |
| Orange | ~ 635 - 590 nm |
| Yellow | ~ 590 - 560 nm |
| Green | ~ 560 - 490 nm |
| Blue | ~ 490 - 450 nm |
| Violet | ~ 450 - 400 nm |